10/561570

SEQUENCE LISTING

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caggatatat gacagggagg agaaatttct catctcaaat gaaaagaaga tattttctga 3180
aaatagttta aagtctgaag aacctatcct atggaccaag ggtgagattc ttggaaaggt 3240
agcctacggc acagtatact gtggtctcac tagtcaagga cagctaatga ctgtaaaaca 3300
ggtggctttg gatacctcta ataaattagc tgctgaaaag gaataccgga aactacagga 3360
agaagtagat ttgctcaaag cactgaaaca tgtcaacatt gtggcctatt tggggacatg 3420
cttgcaagag aacactgtga gcattttcat ggagtttgtt cctggtggct caatctctag 3480
tattataaac cgttttgggc cattgcctga gatggtgttc tgtaaatata cgaaacaaat 3540
acttcaaggt gttgcttatc tccatgagaa ctgtgtggta catcgcgata tcaaaggaaa 3600
taatgttatg ctcatgccaa ctggaataat aaagctgatt gactttggct gtgccaggcg 3660
tttggcctgg gcaggtttaa atggcaccca cagtgacatg cttaagtcca tgcatgggac 3720
tccatattgg atggccccag aagtcatcaa tgagtctggc tatggacgga aatcagatat 3780
ctggagcatt ggttgtactg tgtttgagat ggctacaggg aagcctccac tggcttccat 3840
ggacaggatg gccgccatgt tttacatcgg agcacaccga gggctgatgc ctcctttacc 3900
agaccacttc tcagaaaatg cagcagactt tgtgcgcatg tgcctgacca gggaccagca 3960
tgagcgacct tctgctctcc agctcctgaa gcactccttc ttggagagaa gtcactgaat 4020
atacatcaag actttcttcc cagttccact gcagatgc                          4058
```

<210> 5
<211> 1460
<212> DNA
<213> Homo sapiens

<400> 5
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ttcaaagaaa cagcagcttt tggacatttt aatgagttct atgccaaaac cagaaagaca 60
tgctgagtca ttgcttgaca tttgtcatga tacaaactct tctccaactg atttgatgac 120
agttaccaaa aatcaaaaca tcatcttgca aagcatcagc agaagtgagg agttcgacca 180
agatggtgac tgcagtcatt ccacactggt taatgaagaa gaagatccca gtggtggtag 240
acaggactgg caacccagga cagaaggtgt tgagatcact gtaacttttc caagagatgt 300
cagtcctccc caagaaatga gccaagaaga cttaaaagaa aagaatctga taaactcatc 360
gcttcaagaa tgggcacaag cacatgcagt ttctcatcca aatgaaatag aaacggtgga 420
gctcaggaaa aagaagctga ccatgcggcc cttagttttg caaaaagagg aaagttccag 480
ggagctctgc aatgtgaact tgggcttttt gctaccaaga tcttgtttag aactgaacat 540
ttccaagtct gtaaccagag aagatgctcc tcattttctg aaggagcagc aaagaaaatc 600
tgaagagttt cgacctctc atatgaagta cagtggccga agcatcaaga ggcatagtag 660
tgggctcagg atatatgaca gggaggagaa atttctcatc tcaaatgaaa agaagatatt 720
ttctgaaaat agtttaaagt ctgaagaacc tatcctatgg accaggtag atttgctcaa 780
agcactgaaa catgtcaaca ttgtggccta tttggggaca tgcttgcaag agaacactgt 840
gagcattttc atggagtttg ttcctggtgg ctcaatctct agtattataa accgttttgg 900
gccattgcct gagatggtgt tctgtaaata tacgaaacaa atacttcaag gtgttgctta 960
tctccatgag aactgtgtgg tacatcgcga tatcaaagga ataatgtta tgctcatgcc 1020
aactggaata ataaagctga ttgactttgg ctgtgccagg cgtttggcct gggcaggttt 1080
aaatggcacc cacagtgaca tgcttaagtc catgcatggg actccatatt ggatggcccc 1140
agaagtcatc aatgagtctg gctatggacg gaaatcagat atctggagca ttggttgtac 1200
tgtgtttgag atggctacag ggaagcctcc actggcttcc atggacagga tggccgccat 1260
gttttacatc ggagcacacc gagggctgat gcctccttta ccagaccact tctcagaaaa 1320
tgcagcagac tttgtgcgca tgtgcctgac cagggaccag catgagcgac cttctgctct 1380
ccagctcctg aagcactcct tcttggagag aagtcactga atatacatca agactttctt 1440
cccagttcca ctgcagatgc                                              1460
```

<210> 6
<211> 1604
<212> DNA
<213> Homo sapiens

<400> 6
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ttcaaagaaa cagcagcttt tggacatttt aatgagttct atgccaaaac cagaaagaca 60
tgctgagtca ttgcttgaca tttgtcatga tacaaactct tctccaactg atttgatgac 120
agttaccaaa aatcaaaaca tcatcttgca aagcatcagc agaagtgagg agttcgacca 180
agatggtgac tgcagtcatt ccacactggt taatgaagaa gaagatccca gtggtggtag 240
acaggactgg caacccagga cagaaggtgt tgagatcact gtaacttttc caagagatgt 300
cagtcctccc caagaaatga gccaagaaga cttaaaagaa aagaatctga taaactcatc 360
gcttcaagaa tgggcacaag cacatgcagt ttctcatcca aatgaaatag aaacggtgga 420
gctcaggaaa aagaagctga ccatgcggcc cttagttttg caaaaagagg aaagttccag 480
```

```
·ggagctctgc aatgtgaact tgggcttttt gctaccaaga tcttgtttag aactgaacat 540
ttccaagtct gtaaccagag aagatgctcc tcattttctg aaggagcagc aaagaaaatc 600
tgaagagttt tcgacctctc atatgaagta cagtggccga agcatcaaga ggcatagtag 660
tgggctcagg atatatgaca gggaggagaa atttctcatc tcaaatgaaa agaagatatt 720
ttctgaaaat agtttaaagt ctgaagaacc tatcctatgg accaaggggtg agattcttgg 780
aaagggagcc tacggcacag tatactgtgg tctcactagt caaggacagc taatagctgt 840
aaaacaggtg gctttggata cctctaataa attagctgct gaaaaggaat accggaaact 900
acaggaagaa gtagatttgc tcaaagcact gaaacatgtc aacattgtgg cctatttggg 960
gacatgcttg caagagaaca ctgtgagcat tttcatggag tttgttcctg gtggctcaat 1020
ctctagtatt ataaaccgtt ttgggccatt gcctgagatg gtgttctgta aatatacgaa 1080
acaaatactt caaggtgttg cttatctcca tgagaactgt gtggtacatc gcgatatcaa 1140
aggaaataat gttatgctca tgccaactgg aataataaag ctgattgact ttggctgtgc 1200
caggcgtttg gcctgggcag gtttaaatgg cacccacagt gacatgctta agtccatgca 1260
tgggactcca tattggatgg ccccagaagt catcaatgag tctggctatg gacggaaatc 1320
agatatctgg agcattggtt gtactgtgtt tgagatggct acagggaagc ctccactggc 1380
ttccatggac aggatggccg ccatgtttta catcggagca caccgagggc tgatgcctcc 1440
tttaccagac cacttctcag aaaatgcagc agactttgtg cgcatgtgcc tgaccaggga 1500
ccagcatgag cgaccttctg ctctccagct cctgaagcac tccttcttgg agagaagtca 1560
ctgaatatac atcaagactt tcttcccagt tccactgcag atgc 1604
```

```
<210> 7
<211> 1225
<212> PRT
<213> Homo sapiens

<400> 7
Ser Lys Lys Gln Gln  Leu Leu Asp Ile Leu  Met Ser Ser Met Pro Lys
  1             5                    10                    15

Pro Glu Arg His Ala  Glu Ser Leu Leu Asp  Ile Cys His Asp Thr Asn
              20                    25                    30

Ser Ser Pro Thr Asp  Leu Met Thr Val Thr  Lys Asn Gln Asn Ile Ile
          35                    40                    45

Leu Gln Ser Ile Ser  Arg Ser Glu Glu Phe  Asp Gln Asp Gly Asp Cys
      50                    55                    60

Ser His Ser Thr Leu  Val Asn Glu Glu Glu  Asp Pro Ser Gly Gly Arg
 65                    70                    75                    80

Gln Asp Trp Gln Pro  Arg Thr Glu Glu Phe  Ser Thr Ser His Met Lys
                  85                    90                    95

Tyr Ser Gly Arg Ser  Ile Lys Phe Leu Leu  Pro Pro Leu Ser Leu Leu
              100                   105                   110

Pro Thr Arg Ser Gly  Val Leu Thr Ile Pro  Gln Asn His Lys Phe Pro
              115                   120                   125

Lys Glu Lys Glu Arg  Asn Ile Pro Ser Leu  Thr Ser Phe Val Pro Lys
      130                   135                   140

Leu Ser Val Ser Val  Arg Gln Ser Asp Glu  Leu Ser Pro Ser Asn Glu
145                   150                   155                   160

Pro Pro Gly Ala Leu  Val Lys Ser Leu Met  Asp Pro Thr Leu Arg Ser
              165                   170                   175

Ser Asp Gly Phe Ile  Trp Ser Arg Asn Met  Cys Ser Phe Pro Lys Thr
              180                   185                   190

Asn His His Arg Gln  Cys Leu Glu Lys Glu  Glu Asn Trp Lys Ser Lys
          195                   200                   205

Glu Ile Glu Glu Cys  Asn Lys Ile Glu Ile  Thr His Phe Glu Lys Gly
      210                   215                   220
```

Gln Ser Leu Val Ser Phe Glu Asn Leu Lys Glu Gly Asn Ile Pro Ala
225   230   235   240

Val Arg Glu Glu Asp Ile Asp Cys His Gly Ser Lys Thr Arg Lys Pro
                245   250   255

Glu Glu Glu Asn Ser Gln Tyr Leu Ser Ser Arg Lys Asn Glu Ser Ser
                260   265   270

Val Ala Lys Asn Tyr Glu Gln Asp Pro Glu Ile Val Cys Thr Ile Pro
                275   280   285

Ser Lys Phe Gln Glu Thr Gln His Ser Glu Ile Thr Pro Ser Gln Asp
                290   295   300

Glu Glu Met Arg Asn Asn Lys Ala Ala Ser Lys Arg Val Ser Leu His
305   310   315   320

Lys Asn Glu Ala Met Glu Pro Asn Asn Ile Leu Glu Glu Cys Thr Val
                325   330   335

Leu Lys Ser Leu Ser Ser Val Val Phe Asp Asp Pro Ile Asp Lys Leu
                340   345   350

Pro Glu Gly Cys Ser Ser Met Glu Thr Asn Ile Lys Ile Ser Ile Ala
                355   360   365

Glu Arg Ala Lys Pro Glu Met Ser Arg Met Val Pro Leu Ile His Ile
370   375   380

Thr Phe Pro Val Asp Gly Ser Pro Lys Glu Pro Val Ile Ala Lys Pro
385   390   395   400

Ser Leu Gln Thr Arg Lys Gly Thr Ile His Asn Asn His Ser Val Asn
                405   410   415

Ile Pro Val His Gln Glu Asn Asp Lys His Lys Met Asn Ser His Arg
                420   425   430

Ser Lys Leu Asp Ser Lys Thr Lys Thr Ser Lys Lys Thr Pro Gln Asn
                435   440   445

Phe Val Ile Ser Thr Glu Gly Pro Ile Lys Pro Thr Met His Lys Thr
                450   455   460

Ser Ile Lys Thr Gln Ile Phe Pro Ala Leu Gly Leu Val Asp Pro Arg
465   470   475   480

Pro Trp Gln Leu Pro Arg Phe Gln Lys Lys Met Pro Gln Ile Ala Lys
                485   490   495

Lys Gln Ser Thr His Arg Thr Gln Lys Pro Lys Lys Gln Ser Phe Pro
                500   505   510

Cys Ile Cys Lys Asn Pro Gly Thr Gln Lys Ser Cys Val Pro Leu Ser
                515   520   525

Val Gln Pro Thr Glu Pro Arg Leu Asn Tyr Leu Asp Leu Lys Tyr Ser
530   535   540

Asp Met Phe Lys Glu Ile Asn Ser Thr Ala Asn Gly Pro Gly Ile Tyr
545   550   555   560

Glu Met Phe Gly Thr Pro Val Tyr Cys His Val Arg Glu Thr Glu Arg
                565   570   575

Asp Glu Asn Thr   Tyr Tyr Arg Glu   Ile Cys Ser Ala Pro   Ser Gly Arg
            580   585   590

Arg Ile Thr Asn   Lys Cys Arg Ser   Ser His Ser Glu Arg   Lys Ser Asn
            595   600   605

Ile Arg Thr Arg   Leu Ser Gln Lys   Lys Thr His Met Lys   Cys Pro Lys
        610   615   620

Thr Ser Phe Gly   Ile Lys Gln Glu   His Lys Val Leu Ile   Ser Lys Glu
625   630   635   640

Lys Ser Ser Lys   Ala Val His Ser   Asn Leu His Asp Ile   Glu Asn Gly
            645   650   655

Asp Gly Ile Ser   Glu Pro Asp Trp   Gln Ile Lys Ser Ser   Gly Asn Glu
            660   665   670

Phe Leu Ser Ser   Lys Asp Glu Ile   His Pro Met Asn Leu   Ala Gln Thr
            675   680   685

Pro Glu Gln Ser   Met Lys Gln Asn   Glu Phe Pro Pro Val   Ser Asp Leu
            690   695   700

Ser Ile Val Glu   Glu Val Ser Met   Glu Glu Ser Thr Gly   Asp Arg Asp
705   710   715   720

Ile Ser Asn Asn   Gln Ile Leu Thr   Thr Ser Leu Arg Asp   Leu Gln Glu
            725   730   735

Leu Glu Glu Leu   His His Gln Ile   Pro Phe Ile Pro Ser   Glu Asp Ser
            740   745   750

Trp Ala Val Pro   Ser Glu Lys Asn   Ser Asn Lys Tyr Val   Gln Gln Glu
            755   760   765

Lys Gln Asn Thr   Ala Ser Leu Ser   Lys Val Asn Ala Ser   Arg Ile Leu
            770   775   780

Thr Asn Asp Leu   Glu Phe Asp Ser   Val Ser Asp His Ser   Lys Thr Leu
785   790   795   800

Thr Asn Phe Ser   Phe Gln Ala Lys   Gln Glu Ser Ala Ser   Ser Gln Thr
                  805   810   815

Tyr Gln Tyr Trp   Val His Tyr Leu   Asp His Asp Ser Leu   Ala Asn Lys
            820   825   830

Ser Ile Thr Tyr   Gln Met Phe Gly   Lys Thr Leu Ser Gly   Thr Asn Ser
            835   840   845

Ile Ser Gln Glu   Ile Met Asp Ser   Val Asn Asn Glu Glu   Leu Thr Asp
            850   855   860

Glu Leu Leu Gly   Cys Leu Ala Ala   Glu Leu Leu Ala Leu   Asp Glu Lys
865   870   875   880

Asp Asn Asn Ser   Cys Gln Lys Met   Ala Asn Glu Thr Asp   Pro Glu Asn
                  885   890   895

Leu Asn Leu Val   Leu Arg Trp Arg   Gly Ser Thr Pro Lys   Glu Met Gly
            900   905   910

Arg Glu Thr Thr   Lys Val Lys Ile   Gln Arg His Ser Ser   Gly Leu Arg
            915   920   925

Ile Tyr Asp Arg   Glu Glu Lys Phe   Leu Ile Ser Asn Glu   Lys Lys Ile
            930   935   940

```
Phe Ser Glu Asn Ser Leu Lys Ser Glu Glu Pro Ile Leu Trp Thr Lys
945                 950             955                 960

Gly Glu Ile Leu Gly Lys Gly Ala Tyr Gly Thr Val Tyr Cys Gly Leu
                965             970             975

Thr Ser Gln Gly Gln Leu Ile Ala Val Lys Gln Val Ala Leu Asp Thr
                980             985             990

Ser Asn Lys Leu Ala Ala Glu Lys Glu Tyr Arg Lys Leu Gln Glu Glu
        995             1000            1005

Val Asp Leu Leu Lys Ala Leu Lys His Val Asn Ile Val Ala Tyr Leu
    1010            1015            1020

Gly Thr Cys Leu Gln Glu Asn Thr Val Ser Ile Phe Met Glu Phe Val
1025            1030            1035            1040

Pro Gly Gly Ser Ile Ser Ser Ile Ile Asn Arg Phe Gly Pro Leu Pro
            1045            1050            1055

Glu Met Val Phe Cys Lys Tyr Thr Lys Gln Ile Leu Gln Gly Val Ala
            1060            1065            1070

Tyr Leu His Glu Asn Cys Val Val His Arg Asp Ile Lys Gly Asn Asn
        1075            1080            1085

Val Met Leu Met Pro Thr Gly Ile Ile Lys Leu Ile Asp Phe Gly Cys
    1090            1095            1100

Ala Arg Arg Leu Ala Trp Ala Gly Leu Asn Gly Thr His Ser Asp Met
1105            1110            1115            1120

Leu Lys Ser Met His Gly Thr Pro Tyr Trp Met Ala Pro Glu Val Ile
            1125            1130            1135

Asn Glu Ser Gly Tyr Gly Arg Lys Ser Asp Ile Trp Ser Ile Gly Cys
            1140            1145            1150

Thr Val Phe Glu Met Ala Thr Gly Lys Pro Pro Leu Ala Ser Met Asp
            1155            1160            1165

Arg Met Ala Ala Met Phe Tyr Ile Gly Ala His Arg Gly Leu Met Pro
    1170            1175            1180

Pro Leu Pro Asp His Phe Ser Glu Asn Ala Ala Asp Phe Val Arg Met
1185            1190            1195            1200

Cys Leu Thr Arg Asp Gln His Glu Arg Pro Ser Ala Leu Gln Leu Leu
            1205            1210            1215

Lys His Ser Phe Leu Glu Arg Ser His
            1220            1225
```

```
<210> 8
<211> 1080
<212> PRT
<213> Homo sapiens

<400> 8
Phe Asp Gln Asp Gly Asp Cys Ser His Ser Thr Leu Val Asn Glu Glu
    1                   5               10              15

Glu Asp Pro Ser Gly Gly Arg Gln Asp Trp Gln Pro Arg Thr Glu Gly
            20              25              30
```

Val Glu Ile Thr Val Thr Phe Pro Arg Asp Val Ser Pro Pro Gln Glu
        35   40   45

Met Ser Gln Glu Asp Leu Lys Glu Lys Asn Leu Ile Asn Ser Ser Leu
        50   55   60

Gln Glu Trp Ala Gln Ala His Ala Val Ser His Pro Asn Glu Ile Glu
    65   70   75   80

Thr Val Glu Leu Arg Lys Lys Lys Leu Thr Met Arg Pro Leu Val Leu
                    85   90   95

Gln Lys Glu Glu Ser Ser Arg Glu Leu Cys Asn Val Asn Leu Gly Phe
            100   105   110

Leu Leu Pro Arg Ser Cys Leu Glu Leu Asn Ile Ser Lys Ser Val Thr
            115   120   125

Arg Glu Asp Ala Pro His Phe Leu Lys Glu Gln Gln Arg Lys Ser Glu
    130   135   140

Glu Phe Ser Thr Ser His Met Lys Tyr Ser Gly Arg Ser Ile Lys Phe
145   150   155   160

Leu Leu Pro Pro Leu Ser Leu Leu Pro Thr Arg Ser Gly Val Leu Thr
            165   170   175

Ile Pro Gln Asn His Lys Phe Pro Lys Glu Lys Glu Arg Asn Ile Pro
            180   185   190

Ser Leu Thr Ser Phe Val Pro Lys Leu Ser Val Ser Val Arg Gln Ser
        195   200   205

Asp Glu Leu Ser Pro Ser Asn Glu Pro Pro Gly Ala Leu Val Lys Ser
    210   215   220

Leu Met Asp Pro Thr Leu Arg Ser Ser Asp Gly Phe Ile Trp Ser Arg
225   230   235   240

Asn Met Cys Ser Phe Pro Lys Thr Asn His His Arg Gln Cys Leu Glu
            245   250   255

Lys Glu Glu Asn Trp Lys Ser Lys Glu Ile Glu Glu Cys Asn Lys Ile
            260   265   270

Glu Ile Thr His Phe Glu Lys Gly Gln Ser Leu Val Ser Phe Glu Asn
    275   280   285

Leu Lys Glu Gly Asn Ile Pro Ala Val Arg Glu Glu Asp Ile Asp Cys
    290   295   300

His Gly Ser Lys Thr Arg Lys Pro Glu Glu Glu Asn Ser Gln Tyr Leu
305   310   315   320

Ser Ser Arg Lys Asn Glu Ser Ser Val Ala Lys Asn Tyr Glu Gln Asp
                325   330   335

Pro Glu Ile Val Cys Thr Ile Pro Ser Lys Phe Gln Glu Thr Gln His
            340   345   350

Ser Glu Ile Thr Pro Ser Gln Asp Glu Glu Met Arg Asn Asn Lys Ala
        355   360   365

Ala Ser Lys Arg Val Ser Leu His Lys Asn Glu Ala Met Glu Pro Asn
    370   375   380

Asn Ile Leu Glu Glu Cys Thr Val Leu Lys Ser Leu Ser Ser Val Val
385   390   395   400

```
Phe Asp Asp Pro Ile Asp Lys Leu Pro Glu Gly Cys Ser Ser Met Glu
                405                 410                 415

Thr Asn Ile Lys Ile Ser Ile Ala Glu Arg Ala Lys Pro Glu Met Ser
                420                 425                 430

Arg Met Val Pro Leu Ile His Ile Thr Phe Pro Val Asp Gly Ser Pro
                435                 440                 445

Lys Glu Pro Val Ile Ala Lys Pro Ser Leu Gln Thr Arg Lys Gly Thr
    450                 455                 460

Ile His Asn Asn His Ser Val Asn Ile Pro Val His Gln Glu Asn Asp
465                 470                 475                 480

Lys His Lys Met Asn Ser His Arg Ser Lys Leu Asp Ser Lys Thr Lys
                485                 490                 495

Thr Ser Lys Lys Thr Pro Gln Asn Phe Val Ile Ser Thr Glu Gly Pro
            500                 505                 510

Ile Lys Pro Thr Met His Lys Thr Ser Ile Lys Thr Gln Ile Phe Pro
            515                 520                 525

Ala Leu Gly Leu Val Asp Pro Arg Pro Trp Gln Leu Pro Arg Phe Gln
    530                 535                 540

Lys Lys Met Pro Gln Ile Ala Lys Lys Gln Ser Thr His Arg Thr Gln
545                 550                 555                 560

Lys Pro Lys Lys Gln Ser Phe Pro Cys Ile Cys Lys Asn Pro Gly Thr
                565                 570                 575

Gln Lys Ser Cys Val Pro Leu Ser Val Gln Pro Thr Glu Pro Arg Leu
            580                 585                 590

Asn Tyr Leu Asp Leu Lys Tyr Ser Asp Met Phe Lys Glu Ile Asn Ser
        595                 600                 605

Thr Ala Asn Gly Pro Gly Ile Tyr Glu Met Phe Gly Thr Pro Val Tyr
    610                 615                 620

Cys His Val Arg Glu Thr Glu Arg Asp Glu Asn Thr Tyr Tyr Arg Glu
625                 630                 635                 640

Ile Cys Ser Ala Pro Ser Gly Arg Arg Ile Thr Asn Lys Cys Arg Ser
                645                 650                 655

Ser His Ser Glu Arg Lys Ser Asn Ile Arg Thr Arg Leu Ser Gln Lys
            660                 665                 670

Lys Thr His Met Lys Cys Pro Lys Thr Ser Phe Gly Ile Lys Gln Glu
        675                 680                 685

His Lys Val Leu Ile Ser Lys Glu Lys Ser Ser Lys Ala Val His Ser
    690                 695                 700

Asn Leu His Asp Ile Glu Asn Gly Asp Gly Ile Ser Glu Pro Asp Trp
705                 710                 715                 720

Gln Ile Lys Ser Ser Gly Asn Glu Phe Leu Ser Ser Lys Asp Glu Ile
                725                 730                 735

His Pro Met Asn Leu Ala Gln Thr Pro Glu Gln Ser Met Lys Gln Asn
                740                 745                 750
```

```
Glu Phe Pro Pro Val Ser Asp Leu Ser Ile Val Glu Glu Val Ser Met
        755             760             765

Glu Glu Ser Thr Gly Asp Arg Asp Ile Ser Asn Asn Gln Ile Leu Thr
    770             775             780

Thr Ser Leu Arg Asp Leu Gln Glu Leu Glu Glu Leu His His Gln Ile
785             790             795             800

Pro Phe Ile Pro Ser Glu Asp Ser Trp Ala Val Pro Ser Glu Lys Asn
            805             810             815

Ser Asn Lys Tyr Val Gln Gln Glu Lys Gln Asn Thr Ala Ser Leu Ser
        820             825             830

Lys Val Asn Ala Ser Arg Ile Leu Thr Asn Asp Leu Glu Phe Asp Ser
        835             840             845

Val Ser Asp His Ser Lys Thr Leu Thr Asn Phe Ser Phe Gln Ala Lys
    850             855             860

Gln Glu Ser Ala Ser Ser Gln Thr Tyr Gln Tyr Trp Val His Tyr Leu
865             870             875             880

Asp His Asp Ser Leu Ala Asn Lys Ser Ile Thr Tyr Gln Met Phe Gly
            885             890             895

Lys Thr Leu Ser Gly Thr Asn Ser Ile Ser Gln Glu Ile Met Asp Ser
        900             905             910

Val Asn Asn Glu Glu Leu Thr Asp Glu Leu Leu Gly Cys Leu Ala Ala
    915             920             925

Glu Leu Leu Ala Leu Asp Glu Lys Asp Asn Asn Ser Cys Gln Lys Met
    930             935             940

Ala Asn Glu Thr Asp Pro Glu Asn Leu Asn Leu Val Leu Arg Trp Arg
945             950             955             960

Gly Ser Thr Pro Lys Glu Met Gly Arg Glu Thr Thr Lys Val Lys Ile
            965             970             975

Gln Arg His Ser Ser Gly Leu Arg Ile Tyr Asp Arg Glu Glu Lys Phe
        980             985             990

Leu Ile Ser Asn Glu Lys Lys Ile Phe Ser Glu Asn Ser Leu Lys Ser
    995             1000            1005

Glu Glu Pro Ile Leu Trp Thr Lys Gly Glu Ile Leu Gly Lys Gly Ala
    1010            1015            1020

Tyr Gly Thr Val Tyr Cys Gly Leu Thr Ser Gln Gly Gln Leu Ile Ala
1025            1030            1035            1040

Val Lys Gln Val Ala Leu Asp Thr Ser Asn Lys Leu Ala Ala Glu Lys
            1045            1050            1055

Glu Tyr Arg Lys Leu Gln Glu Glu Val Asp Leu Leu Lys Ala Leu Lys
        1060            1065            1070

His Val Pro Asp Gln Gly Pro Ala
        1075            1080


<210> 9
<211> 1137
<212> PRT
<213> Homo sapiens
```

<400> 9

Ser Lys Lys Gln Gln Leu Leu Asp Ile Leu Met Ser Ser Met Pro Lys
 1   5   10   15

Pro Glu Arg His Ala Glu Ser Leu Leu Asp Ile Cys His Asp Thr Asn
            20   25   30

Ser Ser Pro Thr Asp Leu Met Thr Val Thr Lys Asn Gln Asn Ile Ile
        35   40   45

Leu Gln Ser Ile Ser Arg Ser Glu Glu Phe Asp Gln Asp Gly Asp Cys
    50   55   60

Ser His Ser Thr Leu Val Asn Glu Glu Glu Asp Pro Ser Gly Gly Arg
65   70   75   80

Gln Asp Trp Gln Pro Arg Thr Glu Gly Val Glu Ile Thr Val Thr Phe
                85   90   95

Pro Arg Asp Val Ser Pro Pro Gln Glu Met Ser Gln Glu Asp Leu Lys
            100   105   110

Glu Lys Asn Leu Ile Asn Ser Ser Leu Gln Glu Trp Ala Gln Ala His
        115   120   125

Ala Val Ser His Pro Asn Glu Ile Glu Thr Val Glu Leu Arg Lys Lys
    130   135   140

Lys Leu Thr Met Arg Pro Leu Val Leu Gln Lys Glu Glu Ser Ser Arg
145   150   155   160

Glu Leu Cys Asn Val Asn Leu Gly Phe Leu Leu Pro Arg Ser Cys Leu
                165   170   175

Glu Leu Asn Ile Ser Lys Ser Val Thr Arg Glu Asp Ala Pro His Phe
            180   185   190

Leu Lys Glu Gln Gln Arg Lys Ser Glu Glu Phe Ser Thr Ser His Met
        195   200   205

Lys Tyr Ser Gly Arg Ser Ile Lys Phe Leu Leu Pro Pro Leu Ser Leu
    210   215   220

Leu Pro Thr Arg Ser Gly Val Leu Thr Ile Pro Gln Asn His Lys Phe
225   230   235   240

Pro Lys Glu Lys Glu Arg Asn Ile Pro Ser Leu Thr Ser Phe Val Pro
            245   250   255

Lys Leu Ser Val Ser Val Arg Gln Ser Asp Glu Leu Ser Pro Ser Asn
        260   265   270

Glu Pro Pro Gly Ala Leu Val Lys Ser Leu Met Asp Pro Thr Leu Arg
    275   280   285

Ser Ser Asp Gly Phe Ile Trp Ser Arg Asn Met Cys Ser Phe Pro Lys
    290   295   300

Thr Asn His His Arg Gln Cys Leu Glu Lys Glu Glu Asn Trp Lys Ser
305   310   315   320

Lys Glu Ile Glu Glu Cys Asn Lys Ile Glu Ile Thr His Phe Glu Lys
            325   330   335

Gly Gln Ser Leu Val Ser Phe Glu Asn Leu Lys Glu Gly Asn Ile Pro
        340   345   350

```
Ala Val Arg Glu Glu Asp Ile Asp Cys His Gly Ser Lys Thr Arg Lys
        355             360             365

Pro Glu Glu Glu Asn Ser Gln Tyr Leu Ser Ser Arg Lys Asn Glu Ser
    370             375             380

Ser Val Ala Lys Asn Tyr Glu Gln Asp Pro Glu Ile Val Cys Thr Ile
385             390             395             400

Pro Ser Lys Phe Gln Glu Thr Gln His Ser Glu Ile Thr Pro Ser Gln
            405             410             415

Asp Glu Glu Met Arg Asn Asn Lys Ala Ala Ser Lys Arg Val Ser Leu
            420             425             430

His Lys Asn Glu Ala Met Glu Pro Asn Asn Ile Leu Glu Glu Cys Thr
        435             440             445

Val Leu Lys Ser Leu Ser Ser Val Val Phe Asp Asp Pro Ile Asp Lys
    450             455             460

Leu Pro Glu Gly Cys Ser Ser Met Glu Thr Asn Ile Lys Ile Ser Ile
465             470             475             480

Ala Glu Arg Ala Lys Pro Glu Met Ser Arg Met Val Pro Leu Ile His
            485             490             495

Ile Thr Phe Pro Val Asp Gly Ser Pro Lys Glu Pro Val Ile Ala Lys
            500             505             510

Pro Ser Leu Gln Thr Arg Lys Gly Thr Ile His Asn Asn His Ser Val
        515             520             525

Asn Ile Pro Val His Gln Glu Asn Asp Lys His Lys Met Asn Ser His
    530             535             540

Arg Ser Lys Leu Asp Ser Lys Thr Lys Thr Ser Lys Lys Thr Pro Gln
545             550             555             560

Asn Phe Val Ile Ser Thr Glu Gly Pro Ile Lys Pro Thr Met His Lys
            565             570             575

Thr Ser Ile Lys Thr Gln Ile Phe Pro Ala Leu Gly Leu Val Asp Pro
            580             585             590

Arg Pro Trp Gln Leu Pro Arg Phe Gln Lys Lys Met Pro Gln Ile Ala
        595             600             605

Lys Lys Gln Ser Thr His Arg Thr Gln Lys Pro Lys Lys Gln Ser Phe
    610             615             620

Pro Cys Ile Cys Lys Asn Pro Gly Thr Gln Lys Ser Cys Val Pro Leu
625             630             635             640

Ser Val Gln Pro Thr Glu Pro Arg Leu Asn Tyr Leu Asp Leu Lys Tyr
            645             650             655

Ser Asp Met Phe Lys Glu Ile Asn Ser Thr Ala Asn Gly Pro Gly Ile
            660             665             670

Tyr Glu Met Phe Gly Thr Pro Val Tyr Cys His Val Arg Glu Thr Glu
        675             680             685

Arg Asp Glu Asn Thr Tyr Tyr Arg Glu Ile Cys Ser Ala Pro Ser Gly
    690             695             700

Arg Arg Ile Thr Asn Lys Cys Arg Ser Ser His Ser Glu Arg Lys Ser
705             710             715             720
```

```
Asn Ile Arg Thr Arg Leu Ser Gln Lys Lys Thr His Met Lys Cys Pro
            725                 730             735

Lys Thr Ser Phe Gly Ile Lys Gln Glu His Lys Val Leu Ile Ser Lys
            740                 745             750

Glu Lys Ser Ser Lys Ala Val His Ser Asn Leu His Asp Ile Glu Asn
        755             760             765

Gly Asp Gly Ile Ser Glu Pro Asp Trp Gln Ile Lys Ser Ser Gly Asn
    770             775             780

Glu Phe Leu Ser Ser Lys Asp Glu Ile His Pro Met Asn Leu Ala Gln
785             790             795                 800

Thr Pro Glu Gln Ser Met Lys Gln Asn Glu Phe Pro Pro Val Ser Asp
            805             810             815

Leu Ser Ile Val Glu Glu Val Ser Met Glu Glu Ser Thr Gly Asp Arg
            820             825             830

Asp Ile Ser Asn Asn Gln Ile Leu Thr Thr Ser Leu Arg Asp Leu Gln
        835             840             845

Glu Leu Glu Glu Leu His His Gln Ile Pro Phe Ile Pro Ser Glu Asp
    850             855             860

Ser Trp Ala Val Pro Ser Glu Lys Asn Ser Asn Lys Tyr Val Gln Gln
865             870             875                 880

Glu Lys Gln Asn Thr Ala Ser Leu Ser Lys Val Asn Ala Ser Arg Ile
            885             890             895

Leu Thr Asn Asp Leu Glu Phe Asp Ser Val Ser Asp His Ser Lys Thr
            900             905             910

Leu Thr Asn Phe Ser Phe Gln Ala Lys Gln Glu Ser Ala Ser Ser Gln
            915             920             925

Thr Tyr Gln Tyr Trp Val His Tyr Leu Asp His Asp Ser Leu Ala Asn
    930             935             940

Lys Ser Ile Thr Tyr Gln Met Phe Gly Lys Thr Leu Ser Gly Thr Asn
945             950             955                 960

Ser Ile Ser Gln Glu Ile Met Asp Ser Val Asn Asn Glu Glu Leu Thr
            965             970             975

Asp Glu Leu Leu Gly Cys Leu Ala Ala Glu Leu Leu Ala Leu Asp Glu
            980             985             990

Lys Asp Asn Asn Ser Cys Gln Lys Met Ala Asn Glu Thr Asp Pro Glu
        995             1000            1005

Asn Leu Asn Leu Val Leu Arg Trp Arg Gly Ser Thr Pro Lys Glu Met
    1010            1015            1020

Gly Arg Glu Thr Thr Lys Val Lys Ile Gln Arg His Ser Ser Gly Leu
1025            1030            1035                1040

Arg Ile Tyr Asp Arg Glu Glu Lys Phe Leu Ile Ser Asn Glu Lys Lys
            1045            1050            1055

Ile Phe Ser Glu Asn Ser Leu Lys Ser Glu Glu Pro Ile Leu Trp Thr
        1060            1065            1070
```

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Lys Gly Glu Ile Leu Gly Lys Gly Ala Tyr Gly Thr Val Tyr Cys Gly
      1075                  1080                 1085

Leu Thr Ser Gln Gly Gln Leu Ile Ala Val Lys Gln Val Ala Leu Asp
   1090              1095                 1100

Thr Ser Asn Lys Leu Ala Ala Glu Lys Glu Tyr Arg Lys Leu Gln Glu
1105              1110                 1115                 1120

Glu Val Asp Leu Leu Lys Ala Leu Lys His Val Pro Asp Gln Gly Pro
            1125              1130                 1135

Ala
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```
<210> 10
<211> 1338
<212> PRT
<213> Homo sapiens

<400> 10
Ser Lys Lys Gln Gln Leu Leu Asp Ile Leu Met Ser Ser Met Pro Lys
   1               5                  10                 15

Pro Glu Arg His Ala Glu Ser Leu Leu Asp Ile Cys His Asp Thr Asn
            20                 25                 30

Ser Ser Pro Thr Asp Leu Met Thr Val Thr Lys Asn Gln Asn Ile Ile
         35                 40                 45

Leu Gln Ser Ile Ser Arg Ser Glu Glu Phe Asp Gln Asp Gly Asp Cys
      50                 55                 60

Ser His Ser Thr Leu Val Asn Glu Glu Glu Asp Pro Ser Gly Gly Arg
65                    70                 75                    80

Gln Asp Trp Gln Pro Arg Thr Glu Gly Val Glu Ile Thr Val Thr Phe
            85                 90                 95

Pro Arg Asp Val Ser Pro Pro Gln Glu Met Ser Gln Glu Asp Leu Lys
            100                105                 110

Glu Lys Asn Leu Ile Asn Ser Ser Leu Gln Glu Trp Ala Gln Ala His
      115                120                 125

Ala Val Ser His Pro Asn Glu Ile Glu Thr Val Glu Leu Arg Lys Lys
   130                135                 140

Lys Leu Thr Met Arg Pro Leu Val Leu Gln Lys Glu Glu Ser Ser Arg
145              150                 155                    160

Glu Leu Cys Asn Val Asn Leu Gly Phe Leu Leu Pro Arg Ser Cys Leu
            165                170                 175

Glu Leu Asn Ile Ser Lys Ser Val Thr Arg Glu Asp Ala Pro His Phe
            180                185                 190

Leu Lys Glu Gln Gln Arg Lys Ser Glu Glu Phe Ser Thr Ser His Met
      195                200                 205

Lys Tyr Ser Gly Arg Ser Ile Lys Phe Leu Leu Pro Pro Leu Ser Leu
   210                215                 220

Leu Pro Thr Arg Ser Gly Val Leu Thr Ile Pro Gln Asn His Lys Phe
225              230                 235                    240
```

Pro Lys Glu Lys Glu Arg Asn Ile Pro Ser Leu Thr Ser Phe Val Pro
                245   250   255

Lys Leu Ser Val Ser Val Arg Gln Ser Asp Glu Leu Ser Pro Ser Asn
            260   265   270

Glu Pro Pro Gly Ala Leu Val Lys Ser Leu Met Asp Pro Thr Leu Arg
        275   280   285

Ser Ser Asp Gly Phe Ile Trp Ser Arg Asn Met Cys Ser Phe Pro Lys
    290   295   300

Thr Asn His His Arg Gln Cys Leu Glu Lys Glu Glu Asn Trp Lys Ser
305   310   315   320

Lys Glu Ile Glu Glu Cys Asn Lys Ile Glu Ile Thr His Phe Glu Lys
                325   330   335

Gly Gln Ser Leu Val Ser Phe Glu Asn Leu Lys Glu Gly Asn Ile Pro
            340   345   350

Ala Val Arg Glu Glu Asp Ile Asp Cys His Gly Ser Lys Thr Arg Lys
            355   360   365

Pro Glu Glu Glu Asn Ser Gln Tyr Leu Ser Ser Arg Lys Asn Glu Ser
    370   375   380

Ser Val Ala Lys Asn Tyr Glu Gln Asp Pro Glu Ile Val Cys Thr Ile
385   390   395   400

Pro Ser Lys Phe Gln Glu Thr Gln His Ser Glu Ile Thr Pro Ser Gln
                405   410   415

Asp Glu Glu Met Arg Asn Asn Lys Ala Ala Ser Lys Arg Val Ser Leu
            420   425   430

His Lys Asn Glu Ala Met Glu Pro Asn Asn Ile Leu Glu Glu Cys Thr
            435   440   445

Val Leu Lys Ser Leu Ser Ser Val Val Phe Asp Asp Pro Ile Asp Lys
    450   455   460

Leu Pro Glu Gly Cys Ser Ser Met Glu Thr Asn Ile Lys Ile Ser Ile
465   470   475   480

Ala Glu Arg Ala Lys Pro Glu Met Ser Arg Met Val Pro Leu Ile His
                485   490   495

Ile Thr Phe Pro Val Asp Gly Ser Pro Lys Glu Pro Val Ile Ala Lys
            500   505   510

Pro Ser Leu Gln Thr Arg Lys Gly Thr Ile His Asn Asn His Ser Val
            515   520   525

Asn Ile Pro Val His Gln Glu Asn Asp Lys His Lys Met Asn Ser His
    530   535   540

Arg Ser Lys Leu Asp Ser Lys Thr Lys Thr Ser Lys Lys Thr Pro Gln
545   550   555   560

Asn Phe Val Ile Ser Thr Glu Gly Pro Ile Lys Pro Thr Met His Lys
                565   570   575

Thr Ser Ile Lys Thr Gln Ile Phe Pro Ala Leu Gly Leu Val Asp Pro
            580   585   590

Arg Pro Trp Gln Leu Pro Arg Phe Gln Lys Lys Met Pro Gln Ile Ala
            595   600   605

Lys Lys Gln Ser Thr His Arg Thr Gln Lys Pro Lys Lys Gln Ser Phe
    610   615   620

Pro Cys Ile Cys Lys Asn Pro Gly Thr Gln Lys Ser Cys Val Pro Leu
625   630   635   640

Ser Val Gln Pro Thr Glu Pro Arg Leu Asn Tyr Leu Asp Leu Lys Tyr
            645   650   655

Ser Asp Met Phe Lys Glu Ile Asn Ser Thr Ala Asn Gly Pro Gly Ile
            660   665   670

Tyr Glu Met Phe Gly Thr Pro Val Tyr Cys His Val Arg Glu Thr Glu
        675   680   685

Arg Asp Glu Asn Thr Tyr Tyr Arg Glu Ile Cys Ser Ala Pro Ser Gly
    690   695   700

Arg Arg Ile Thr Asn Lys Cys Arg Ser Ser His Ser Glu Arg Lys Ser
705   710   715   720

Asn Ile Arg Thr Arg Leu Ser Gln Lys Lys Thr His Met Lys Cys Pro
            725   730   735

Lys Thr Ser Phe Gly Ile Lys Gln Glu His Lys Val Leu Ile Ser Lys
            740   745   750

Glu Lys Ser Ser Lys Ala Val His Ser Asn Leu His Asp Ile Glu Asn
        755   760   765

Gly Asp Gly Ile Ser Glu Pro Asp Trp Gln Ile Lys Ser Ser Gly Asn
    770   775   780

Glu Phe Leu Ser Ser Lys Asp Glu Ile His Pro Met Asn Leu Ala Gln
785   790   795   800

Thr Pro Glu Gln Ser Met Lys Gln Asn Glu Phe Pro Pro Val Ser Asp
            805   810   815

Leu Ser Ile Val Glu Glu Val Ser Met Glu Glu Ser Thr Gly Asp Arg
        820   825   830

Asp Ile Ser Asn Asn Gln Ile Leu Thr Thr Ser Leu Arg Asp Leu Gln
        835   840   845

Glu Leu Glu Glu Leu His His Gln Ile Pro Phe Ile Pro Ser Glu Asp
    850   855   860

Ser Trp Ala Val Pro Ser Glu Lys Asn Ser Asn Lys Tyr Val Gln Gln
865   870   875   880

Glu Lys Gln Asn Thr Ala Ser Leu Ser Lys Val Asn Ala Ser Arg Ile
            885   890   895

Leu Thr Asn Asp Leu Glu Phe Asp Ser Val Ser Asp His Ser Lys Thr
            900   905   910

Leu Thr Asn Phe Ser Phe Gln Ala Lys Gln Glu Ser Ala Ser Ser Gln
        915   920   925

Thr Tyr Gln Tyr Trp Val His Tyr Leu Asp His Asp Ser Leu Ala Asn
    930   935   940

Lys Ser Ile Thr Tyr Gln Met Phe Gly Lys Thr Leu Ser Gly Thr Asn
945   950   955   960

Ser Ile Ser Gln Glu Ile Met Asp Ser Val Asn Asn Glu Glu Leu Thr
        965   970   975

Asp Glu Leu Leu Gly Cys Leu Ala Ala Glu Leu Leu Ala Leu Asp Glu
        980   985   990

Lys Asp Asn Asn Ser Cys Gln Lys Met Ala Asn Glu Thr Asp Pro Glu
        995   1000   1005

Asn Leu Asn Leu Val Leu Arg Trp Arg Gly Ser Thr Pro Lys Glu Met
    1010   1015   1020

Gly Arg Glu Thr Thr Lys Val Lys Ile Gln Arg His Ser Ser Gly Leu
1025   1030   1035   1040

Arg Ile Tyr Asp Arg Glu Glu Lys Phe Leu Ile Ser Asn Glu Lys Lys
            1045   1050   1055

Ile Phe Ser Glu Asn Ser Leu Lys Ser Glu Glu Pro Ile Leu Trp Thr
        1060   1065   1070

Lys Gly Glu Ile Leu Gly Lys Gly Ala Tyr Gly Thr Val Tyr Cys Gly
        1075   1080   1085

Leu Thr Ser Gln Gly Gln Leu Ile Ala Val Lys Gln Val Ala Leu Asp
    1090   1095   1100

Thr Ser Asn Lys Leu Ala Ala Glu Lys Glu Tyr Arg Lys Leu Gln Glu
1105   1110   1115   1120

Glu Val Asp Leu Leu Lys Ala Leu Lys His Val Asn Ile Val Ala Tyr
            1125   1130   1135

Leu Gly Thr Cys Leu Gln Glu Asn Thr Val Ser Ile Phe Met Glu Phe
        1140   1145   1150

Val Pro Gly Gly Ser Ile Ser Ser Ile Ile Asn Arg Phe Gly Pro Leu
        1155   1160   1165

Pro Glu Met Val Phe Cys Lys Tyr Thr Lys Gln Ile Leu Gln Gly Val
    1170   1175   1180

Ala Tyr Leu His Glu Asn Cys Val Val His Arg Asp Ile Lys Gly Asn
1185   1190   1195   1200

Asn Val Met Leu Met Pro Thr Gly Ile Ile Lys Leu Ile Asp Phe Gly
        1205   1210   1215

Cys Ala Arg Arg Leu Ala Trp Ala Gly Leu Asn Gly Thr His Ser Asp
        1220   1225   1230

Met Leu Lys Ser Met His Gly Thr Pro Tyr Trp Met Ala Pro Glu Val
    1235   1240   1245

Ile Asn Glu Ser Gly Tyr Gly Arg Lys Ser Asp Ile Trp Ser Ile Gly
    1250   1255   1260

Cys Thr Val Phe Glu Met Ala Thr Gly Lys Pro Pro Leu Ala Ser Met
1265   1270   1275   1280

Asp Arg Met Ala Ala Met Phe Tyr Ile Gly Ala His Arg Gly Leu Met
        1285   1290   1295

Pro Pro Leu Pro Asp His Phe Ser Glu Asn Ala Ala Asp Phe Val Arg
        1300   1305   1310

Met Cys Leu Thr Arg Asp Gln His Glu Arg Pro Ser Ala Leu Gln Leu
    1315   1320   1325

Leu Lys His Ser Phe Leu Glu Arg Ser His
    1330   1335

<210> 11
<211> 472
<212> PRT
<213> Homo sapiens

<400> 11
Ser Lys Lys Gln Gln Leu Leu Asp Ile Leu Met Ser Ser Met Pro Lys
    1   5   10   15

Pro Glu Arg His Ala Glu Ser Leu Leu Asp Ile Cys His Asp Thr Asn
            20   25   30

Ser Ser Pro Thr Asp Leu Met Thr Val Thr Lys Asn Gln Asn Ile Ile
        35   40   45

Leu Gln Ser Ile Ser Arg Ser Glu Glu Phe Asp Gln Asp Gly Asp Cys
    50   55   60

Ser His Ser Thr Leu Val Asn Glu Glu Glu Asp Pro Ser Gly Gly Arg
65   70   75   80

Gln Asp Trp Gln Pro Arg Thr Glu Gly Val Glu Ile Thr Val Thr Phe
                85   90   95

Pro Arg Asp Val Ser Pro Pro Gln Glu Met Ser Gln Glu Asp Leu Lys
            100   105   110

Glu Lys Asn Leu Ile Asn Ser Ser Leu Gln Glu Trp Ala Gln Ala His
            115   120   125

Ala Val Ser His Pro Asn Glu Ile Glu Thr Val Glu Leu Arg Lys Lys
    130   135   140

Lys Leu Thr Met Arg Pro Leu Val Leu Gln Lys Glu Glu Ser Ser Arg
145   150   155   160

Glu Leu Cys Asn Val Asn Leu Gly Phe Leu Leu Pro Arg Ser Cys Leu
            165   170   175

Glu Leu Asn Ile Ser Lys Ser Val Thr Arg Glu Asp Ala Pro His Phe
            180   185   190

Leu Lys Glu Gln Gln Arg Lys Ser Glu Glu Phe Ser Thr Ser His Met
            195   200   205

Lys Tyr Ser Gly Arg Ser Ile Lys Arg His Ser Ser Gly Leu Arg Ile
    210   215   220

Tyr Asp Arg Glu Glu Lys Phe Leu Ile Ser Asn Glu Lys Lys Ile Phe
225   230   235   240

Ser Glu Asn Ser Leu Lys Ser Glu Glu Pro Ile Leu Trp Thr Lys Val
            245   250   255

Asp Leu Leu Lys Ala Leu Lys His Val Asn Ile Val Ala Tyr Leu Gly
            260   265   270

Thr Cys Leu Gln Glu Asn Thr Val Ser Ile Phe Met Glu Phe Val Pro
    275   280   285

Gly Gly Ser Ile Ser Ser Ile Ile Asn Arg Phe Gly Pro Leu Pro Glu
    290   295   300

```
Met Val Phe Cys Lys Tyr Thr Lys Gln Ile Leu Gln Gly Val Ala Tyr
305                 310             315                 320

Leu His Glu Asn Cys Val Val His Arg Asp Ile Lys Gly Asn Asn Val
                325             330             335

Met Leu Met Pro Thr Gly Ile Ile Lys Leu Ile Asp Phe Gly Cys Ala
            340             345             350

Arg Arg Leu Ala Trp Ala Gly Leu Asn Gly Thr His Ser Asp Met Leu
        355             360             365

Lys Ser Met His Gly Thr Pro Tyr Trp Met Ala Pro Glu Val Ile Asn
    370             375             380

Glu Ser Gly Tyr Gly Arg Lys Ser Asp Ile Trp Ser Ile Gly Cys Thr
385             390             395                 400

Val Phe Glu Met Ala Thr Gly Lys Pro Pro Leu Ala Ser Met Asp Arg
            405             410             415

Met Ala Ala Met Phe Tyr Ile Gly Ala His Arg Gly Leu Met Pro Pro
            420             425             430

Leu Pro Asp His Phe Ser Glu Asn Ala Ala Asp Phe Val Arg Met Cys
        435             440             445

Leu Thr Arg Asp Gln His Glu Arg Pro Ser Ala Leu Gln Leu Leu Lys
    450             455             460

His Ser Phe Leu Glu Arg Ser His
465             470
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<210> 12
<211> 520
<212> PRT
<213> Homo sapiens

<400> 12
Ser Lys Lys Gln Gln Leu Leu Asp Ile Leu Met Ser Ser Met Pro Lys
    1           5               10                  15

Pro Glu Arg His Ala Glu Ser Leu Leu Asp Ile Cys His Asp Thr Asn
            20              25              30

Ser Ser Pro Thr Asp Leu Met Thr Val Thr Lys Asn Gln Asn Ile Ile
            35              40              45

Leu Gln Ser Ile Ser Arg Ser Glu Glu Phe Asp Gln Asp Gly Asp Cys
    50              55              60

Ser His Ser Thr Leu Val Asn Glu Glu Glu Asp Pro Ser Gly Gly Arg
65              70              75              80

Gln Asp Trp Gln Pro Arg Thr Glu Gly Val Glu Ile Thr Val Thr Phe
            85              90              95

Pro Arg Asp Val Ser Pro Pro Gln Glu Met Ser Gln Glu Asp Leu Lys
            100             105             110

Glu Lys Asn Leu Ile Asn Ser Ser Leu Gln Glu Trp Ala Gln Ala His
        115             120             125

Ala Val Ser His Pro Asn Glu Ile Glu Thr Val Glu Leu Arg Lys Lys
        130             135             140
```

Lys Leu Thr Met Arg Pro Leu Val Leu Gln Lys Glu Glu Ser Ser Arg
145   150   155   160

Glu Leu Cys Asn Val Asn Leu Gly Phe Leu Leu Pro Arg Ser Cys Leu
            165   170   175

Glu Leu Asn Ile Ser Lys Ser Val Thr Arg Glu Asp Ala Pro His Phe
            180   185   190

Leu Lys Glu Gln Gln Arg Lys Ser Glu Glu Phe Ser Thr Ser His Met
        195   200   205

Lys Tyr Ser Gly Arg Ser Ile Lys Arg His Ser Ser Gly Leu Arg Ile
    210   215   220

Tyr Asp Arg Glu Glu Lys Phe Leu Ile Ser Asn Glu Lys Lys Ile Phe
225   230   235   240

Ser Glu Asn Ser Leu Lys Ser Glu Glu Pro Ile Leu Trp Thr Lys Gly
            245   250   255

Glu Ile Leu Gly Lys Gly Ala Tyr Gly Thr Val Tyr Cys Gly Leu Thr
            260   265   270

Ser Gln Gly Gln Leu Ile Ala Val Lys Gln Val Ala Leu Asp Thr Ser
        275   280   285

Asn Lys Leu Ala Ala Glu Lys Glu Tyr Arg Lys Leu Gln Glu Glu Val
    290   295   300

Asp Leu Leu Lys Ala Leu Lys His Val Asn Ile Val Ala Tyr Leu Gly
305   310   315   320

Thr Cys Leu Gln Glu Asn Thr Val Ser Ile Phe Met Glu Phe Val Pro
            325   330   335

Gly Gly Ser Ile Ser Ser Ile Ile Asn Arg Phe Gly Pro Leu Pro Glu
            340   345   350

Met Val Phe Cys Lys Tyr Thr Lys Gln Ile Leu Gln Gly Val Ala Tyr
            355   360   365

Leu His Glu Asn Cys Val Val His Arg Asp Ile Lys Gly Asn Asn Val
    370   375   380

Met Leu Met Pro Thr Gly Ile Ile Lys Leu Ile Asp Phe Gly Cys Ala
385   390   395   400

Arg Arg Leu Ala Trp Ala Gly Leu Asn Gly Thr His Ser Asp Met Leu
            405   410   415

Lys Ser Met His Gly Thr Pro Tyr Trp Met Ala Pro Glu Val Ile Asn
            420   425   430

Glu Ser Gly Tyr Gly Arg Lys Ser Asp Ile Trp Ser Ile Gly Cys Thr
        435   440   445

Val Phe Glu Met Ala Thr Gly Lys Pro Pro Leu Ala Ser Met Asp Arg
    450   455   460

Met Ala Ala Met Phe Tyr Ile Gly Ala His Arg Gly Leu Met Pro Pro
465   470   475   480

Leu Pro Asp His Phe Ser Glu Asn Ala Ala Asp Phe Val Arg Met Cys
            485   490   495

Leu Thr Arg Asp Gln His Glu Arg Pro Ser Ala Leu Gln Leu Leu Lys
        500   505   510

His Ser Phe Leu Glu Arg Ser His
        515   520

<210> 13
<211> 24
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(24)

<400> 13
aatggcaccc acagtgacat gctt   24

<210> 14
<211> 24
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(24)
<223> Primer

<400> 14
ccctcggtgt gctccgatgt aaaa   24

<210> 15
<211> 24
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(28)
<223> Primer

<400> 15
ttcaaagaaa cagcagcttt tggacatt   28

<210> 16
<211> 24
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(25)
<223> Primer

<400> 16
gcatctgcag tggaactggg aagaa   25